

REMARKS

Claims 1-6, 8, 10-11, 24 and 33-37 were examined. Claims 1-6, 8, 10-11, 24 and 33-37 are amended. Claims 1-6, 8, 10-11, 24 and 33-37 remain in the Application.

The Patent Office rejects claims 1-6, 8, 10-11, 24 and 33-37 under 35 U.S.C. §103(a) as obvious over the U.S. Patent No. 6,048,332 of Duffy (Duffy). Duffy discloses systems and methods using a drug delivery catheter that includes a porous balloon method on a distal end of the catheter. See Abstract. The systems and methods may deliver a treatment agent to an inner or luminal surface of a body lumen or deliver a treatment agent that may be carried to other locations within the body to provide treatment to areas larger than or distance from the areas of tissue contact. See col. 4, lines 46-56. Duffy also describes systems and methods that can be used to introduce a treatment agent following techniques intended to dilate stenotic region of a body lumen or other techniques to treat localized lesions of a body lumen. See col. 12, lines 5-8.

Claim 1 describes a method comprising injuring a vessel region comprising a bypass vessel to a target area. The bypass vessel is adjacent to a primary vessel leading to the target area. The primary vessel has an occlusion to blood flow. The method also provides delivering an arteriogenic factor to the bypass vessel.

Independent claim 1 is not obvious over Duffy, because Duffy does not describe injuring a vessel region that comprises a bypass vessel wherein the bypass vessel is adjacent to a primary vessel having an occlusion to blood flow and each of the bypass vessel and the primary vessel lead to a target area. Duffy describes introducing a catheter with a porous balloon into a blood vessel. Duffy does not say anything about introducing a device or delivering a treatment agent into a vessel that comprises a bypass vessel adjacent to a primary vessel leading to a target area of blood flow. Duffy also describes systems and methods for use following techniques that dilated stenotic region of a blood vessel. In this context, Duffy describes treating the blood vessel containing the stenosis, not a bypass vessel.

Although not stated, it appears the Patent Office considers a bypass vessel to be like any other vessel. However, in the context of the claims and the description of the Application, a bypass vessel is a vessel to a target area as is a primary vessel. Further, according to claim 1, the

primary vessel has an occlusion to blood flow. Duffy does not describe systems and methods for introducing a catheter into a vessel other than the vessel containing the stenotic region. Of course, to reach a vessel having a stenotic region, Duffy might go through a vessel not having a stenotic region. It does not necessarily follow that such non-stenotic vessel would qualify as a bypass vessel as defined in claim 1. In fact, in this example, characterizing a vessel leading to a stenotic vessel as a bypass vessel would seem inappropriate since it follows that the device of Duffy would not make it to the stenotic vessel but would instead bypass it.

Duffy teaches treating a stenotic region in a vessel by introducing a device into the vessel. Duffy provides no motivation, suggestion or prediction to treat a bypass vessel as described in claim 1.

Applicant amends claim 1 in an effort to describe the claimed method in a possibly different way than the earlier claim. Applicant does not believe the amendments presented further limit claim 1.

For the above stated reasons, claim 1 is not obvious over the cited references. Claims 2-11 depend from claim 1 and therefore contain all the limitation of that claim. For at least the reasons stated with respect to claim 1, claims 2-11 are not obvious over Duffy.

Claim 24 describes a method comprising injuring a bypass vessel; advancing a distal portion of a catheter to the bypass vessel; delivering an arteriogenic factor; and causing an enlargement to at least a portion of the bypass vessel. As recited in claim 24, the bypass vessel and a primary vessel provide a path for delivery to a target area and, in the context of the claimed method, the primary vessel comprises an occlusion. As noted above, with respect to claim 1, Duffy does not describe injuring a bypass vessel, advancing a distal portion of a catheter to the bypass vessel, and delivering an arteriogenic factor to the bypass vessel. Further, Duffy does not describe causing an enlargement to at least a portion of the bypass vessel. The arguments noted above with respect to claim 1 are incorporated here to render claim 24 not obvious.

Claims 33-37 depend from claim 24 and therefore contain all the limitation of that claim. For at least the reasons stated with respect to claim 24, claims 33-37 are not obvious over Duffy.

With respect to claims 10 and 11, the Patent Office notes that Duffy does not specify a temperature of a catheter but believes the claimed temperatures would be an obvious choice of design dependent on the type of arteriogenic factor being delivered to the blood vessel region. Applicant believes such an assumption is unfounded and respectfully requests that the Patent Office provide a reference that might teach cooling or heating a catheter for delivery of an arteriogenic factor.

Applicant respectfully requests that the Patent Office withdraw the rejection to claims 1-6, 8, 10-11, 24 and 33-37 under 35 U.S.C. §103(a).

CONCLUSION

In view of the foregoing, it is believed that all claims now pending patentably define the subject invention over the prior art of record and are in condition for allowance and such action is earnestly solicited at the earliest possible date.

If necessary, the Commissioner is hereby authorized in this, concurrent and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2666 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17, particularly extension of time fees.

Respectfully submitted,

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